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Cleaner U.S. Wheat: A Boost to Exports?

Horticulture Blooms Brightly page 8

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PERSPECTIVES

MILK PRODUCTION IS LIKELY TO EXPAND during the rest of 1989, spurred by strong milk prices and lower feed costs, according to ERS economist James J. Miller. He adds that dairy markets should remain tight in the next few months.

Farm milk prices have risen, as have wholesale prices for cheese and nonfat dry milk, during much of 1989. Manufacturers of cheese and nonfat dry milk have been competing aggressively for weakening milk supplies.

In mid-July, cheddar cheese prices were above the late 1988 peak and nonfat dry milk prices were just slightly below the peaks of last December. Cheese makers have been trying to rebuild stocks in the face of brisk domestic use, while large quantities of nonfat dry milk were committed to the export market.

High prices may ration commercial use of cheese and nonfat dry milk, and butter prices are likely to be weak, Miller says. But the strong wholesale prices should ensure substantial rises in farm milk prices. May-June milk production was about the same as a year ago, with the effects of the 1988 drought finally overcoming underlying strength in milk output.

Cow slaughter has remained high this year. Growth in milk per cow has slipped. Production increases during the second half of 1989 are likely to push milk output this year 1-3 billion pounds above a year earlier, Miller says.

Farm milk prices averaged $12.20 per cwt during April-June, up 77 cents from a year earlier. Milk prices should be climbing, to catch up with cheese and nonfat dry milk prices. Although late 1989 milk prices may not exceed 1988 prices, the annual average likely will rise 50-70 cents from a year earlier.

Retail dairy prices in early summer were averaging almost 7% higher than a year previously. The increase was comparable to the rise in the index of food prices, but slightly more than the index of all consumer prices. Retail dairy prices probably will rise 5-6% this year, the largest increase since 1981, Miller says.

April-May butter output rose more than 10% from a year earlier, while production of American cheese and nonfat dry milk declined. Supplies of whole and skim milk for manufacturing have been tight, but should loosen in coming months. April-May commercial disappearance fell from a year earlier because of weak butter sales. Use of most other dairy products has been strong, particularly American cheese and nonfat dry milk.

June 1 commercial stocks of American cheese remained below the low levels of a year earlier, although holdings of other cheeses were higher. Stocks of American cheese will be a price-boosting influence in coming months, especially if milk production fails to expand soon.

The government has not purchased nonfat dry milk during the last year, and cheese purchases have been nearly insignificant in 1989. But butter purchases remained heavy through June. Some butter probably will be purchased during the second half of 1989.

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AGRICULTURE...NATURAL RESOURCES...RURAL DEVELOPMENT
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FEATURES

Cleaner U.S. Wheat: A Boost to Exports? *by Doug Martinez* 4

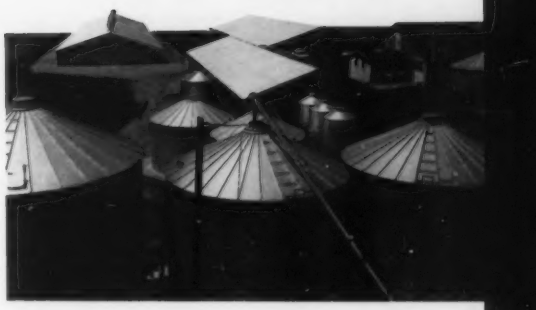
Wheat exported from the United States has been cleaner in recent years. Some customers had complained about chaff and other nonmillable material in the wheat they bought. Economists have determined the basic costs of the clean-up. But it is difficult to tell precisely how much the cleaner condition of the wheat has helped sales.

U.S. Horticulture Blooming Brightly *by Judith Foulke* 8

Greenhouse and nursery plants and flowers are not always thought of as traditional farm crops. But they are a rapidly growing segment of U.S. agriculture and provide a livelihood for many Americans. The prospects for continued growth at the same rapid pace are uncertain, however.

Soybean Promotion Funds Are Sought *by Wendy Pinchas* 12

A national soybean checkoff program, to raise funds for promotion and research, is under consideration. Increased international competition is one of the main reasons. A lot is at stake, for U.S. growers have exported more than $8 billion worth of soybeans and products in some recent years.



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Cleaner U.S. Wheat: A Boost to Exports?

The rising quality of U.S. wheat exports is clearing away the complaints about chaff and other nonmillable material that were commonplace among foreign buyers just a few years ago.

That is the way American wheat traders want things to be going. And although they can't point directly to cleaner wheat capturing larger markets, they do say such quality has added to the attractiveness abroad of U.S.-grown grain.

Analysts tend to agree, but add that more must be done to match the competition.

"Overall, wheat exported from the United States has become cleaner during the last 5 years," says economist Stephanie Mercier of USDA's Economic Research Service. "However, it is known that U.S. wheat still contains considerably more nonmillable material than the wheat shipped by our chief competitors to certain markets."

Nonmillable material falls into two classes—dockage and foreign material.

Dockage is wheat chaff and dust, weed seeds, grain other than wheat, sand, dirt, and any other material that can be removed easily using standard screens and cleaning devices. Foreign material is defined as nonwheat material that cannot be mechanically separated from the usable wheat using standard equipment.

Competitors' Cleaner Wheat

Although information about the quality of competitors' wheat is limited, the available data suggest that Australia and Canada export cleaner wheat to some markets. U.S. Wheat Associates, a consulting firm that works with U.S. wheat growers, recently studied the quality of Canadian and Australian wheat exports to Japan.

As reported in the farm publication, *Agweek*, U.S. Wheat Associates found that wheat exported from Canada, similar to the U.S. Hard Red Spring wheat (HRS) class, contained 0.15 percent foreign material and 0.18 percent dockage on average in 1987/88. This figure compares to an average foreign material content of .24 percent and dockage content of 0.8 percent for U.S. HRS wheat shipments to Japan for the same year.

Cleaner U.S. wheat exports have added to the attractiveness abroad of U.S.-grown grain.

Matched against Australia, U.S. Hard Red Winter wheat (HRW) also trailed in terms of cleanliness.

Australian prime hard wheat exported in 1987/88 to Japan contained an average of 0.05 percent foreign material and 0.40 dockage. The comparable figures for U.S. HRW wheat sent to Japan were .28 percent foreign material and 0.61 percent dockage.

Separate measures of the dockage and foreign material content in wheat from two other large exporters—Argentina and the European Community—are not available, says Mercier.

The cleanliness and quality of U.S. wheat has consistently been climbing, though, from what some termed a "crisis" point in the recent past.

"The quality of U.S. export wheat has been a source of controversy for some time," says Mercier. "Some importers have claimed that U.S. wheat quality is inferior to that of competing exporters because it contains excessive nonwheat material."

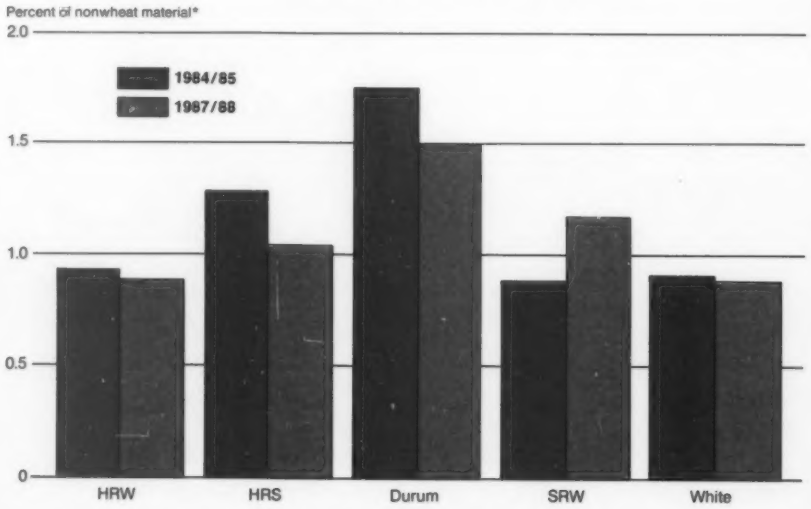
Declining Dockage

But things are improving. Data indicate that the average amount of dockage and foreign material declined between 1984/85 and 1987/88, and more shiplots low in nonwheat material were seen in 1987/88 than in 1984/85.

These figures, notes Mercier, are based on random testing by the U.S. Federal Grain Inspection Service (FGIS), which inspects all grains, including wheat, prior to export from the United States.

"The quality of the wheat is certified by FGIS based on tests of a random sample," says Mercier. "If the quality of the wheat

For Most Major U.S. Wheat Classes, Exports Are Becoming Cleaner



*Dockage and foreign material combined. HRW, HRS, and SRW, are, respectively, Hard Red Winter, Hard Red Spring, and Soft Red Winter, wheats.

does not meet the terms specified in the export contract, the wheat cannot be exported without either cleaning the wheat or mixing it with better quality wheat in order to meet the contract."

Grading factors for wheat include foreign material, broken kernels, heat-damaged kernels, total damaged, and total defects, among others, and are the basis used by FGIS inspectors to assign the appropriate grade to indicate grain quality.

The highest quality ranking—U.S. Grade No. 1—is applied to wheat which has a test weight in excess of 60 pounds per bushel, less than 0.2 percent of heat-damaged kernels, and less than 0.5 percent of foreign material, among other factors.

"A grade certificate is issued by FGIS once inspection is complete, detailing the figures for all grade-determining factors, as well as non-grading factors, such as dockage and protein content which the export contract may specify," says Mercier.

At present, dockage is measured by FGIS inspectors at U.S. export terminals and in random samples of the new crop each year. And since May 1987, dockage has been reported to the nearest tenth of a percent, instead of the nearest half a percent that was previously required. This measure was at least partly prompted by pressures from foreign buyers.

Taking the Initiative

Many importers in foreign countries have been taking other steps themselves.

"A lot of importers specify permissible dockage levels and other nongrading factors in the contracts they negotiate with U.S. grain exporters," says Mercier.

That, in turn, seems to account for the varying cleanliness of U.S. export wheat bound for different regions of the world.

"Among regions receiving at least 50 deliveries of U.S. HRW wheat during 1984-88, the cleanest loads went to Central America and developed Asian countries," says Mercier. "Some Asian countries appear to prefer cleaner wheat, even at a premium."

In contrast, she says, shipments to South America and Africa contained more dockage and foreign material.

"These regions include the world's poorest countries and receive the majority of U.S. wheat exports that are sold under long-term credit arrangements."

A similar pattern was seen in HRS wheat exports.

"The wheat with the lowest average foreign material was shipped to developed Asian countries," says Mercier. "Shipments to developing Asian countries had a relatively high foreign material content, but low dockage."

Shiplots to Europe and South and Central America had the highest percentage of nonmillable material (foreign material and dockage).

"The discrepancy between HRW and HRS wheat for Central America results from Mexico buying the bulk of the HRW wheat destined for Central America and evidently contracting for rather low dockage and foreign material," says Mercier. "The HRS wheat went to other Central American countries that did not specify low levels of dockage and foreign material."

Some American wheat producers are also taking action on their own without waiting for possible government action that would raise wheat export grading standards or mandate more cleaning of wheat at elevators.

'Clean Wheat' Sales

The leader in this effort appears to be the Nebraska Wheat Board, which has helped arrange a number of "clean wheat" sales, mainly to Finland. Perhaps the most publicized example came late last year, when the Wheat Board struck a deal between International Multifoods of Minnesota and the Norwegian Grain Corporation, to sell the Norwegians more than 900,000 bushels of HRS wheat grown in North Dakota and Minnesota. Although the arrangement proved only temporary, and Canada won back this business in January, it proved to many that a market exists for a premium product that is cleaner than the top U.S. Grade No. 1—even when sold at premium prices.

(continued on next page)

The Nebraska Wheat Board's efforts may also be producing another effect—a perception among purchasers the world over that Americans can not only sell a good product but a superior one.

Certainly, the opposite sort of impression was left in many minds, says Mercier, after media reports in the early 1980's about the allegedly poor quality of U.S. grain.

Now, she says, the examples of "clean wheat" sales to Finland and other countries could create a highly positive perception abroad of American wheat—and even push a growing market for cleaner, albeit more expensive, wheat.

"If these kinds of things become widely known among the world's wheat buyers, it could certainly help us to compete more effectively, and may create a larger demand for superclean wheat," says Mercier.

She cautions, however, that the U.S. wheat industry may not presently have the capacity to produce a consistently cleaner product than the usual Grade No. 2 shipped out.

"The number of grain elevators with appropriate cleaning facilities is somewhat limited," says Mercier, "and largely concentrated in North Dakota and Minnesota."

At these sites, aspirators and other equipment are used to remove large amounts of dockage and other foreign material. But equipping all elevators with cleaners would be an expensive procedure. If elevators acquire such equipment, says Mercier, it will take place because producers are convinced that it makes economic sense.

With the proper equipment in place, Mercier estimates the cost of cleaning wheat for export at the elevators at about $25 million a year, or a minimum of 2 to 3 cents a bushel. Additional costs are involved in cleaning wheat domestically.

What that estimate does not include, she says, is the "savings involved in reselling the screenings to feed mills," which serves to cut costs.

It also does not include the profitability of selling a higher quality wheat for higher prices.

"That may be the real lesson of the International Multifoods sale to Finland," says Mercier, "that better quality may ultimately lead to greater market access and higher profits." □

[Based largely on information provided by economists Stephanie Mercier and Edwin Young of the Commodity Economics Division, Economic Research Service.]

'Superclean' Wheat: A Demand Exists

Sales of "superclean" U.S. wheat from Minnesota and North Dakota to Finland and other countries have featured Hard Red Spring wheat—even though the harvest of spring wheat in northern states typically results in dirtier grain than that of winter wheat areas.

Paradoxically, in fact, that is the reason such sales are possible, and apparently profitable.

Because the harvest here yields a cloudier, chaff-packed product, grain elevators in spring wheat areas generally clean grain with special equipment. At the same time, the extra cost of cleaning grain is offset by savings (on transportation costs) and sales (of by-products removed during cleaning).

The result is a cleaner product and a higher profit for grain elevators.

Of course, there are sometimes uncertainties involved that can take the profit out of this proposition.

Grain elevators in North Dakota, for example, spend an average of 4 cents a bushel to clean wheat. Elevators offset that expense by selling "screenings," a livestock feed left over when wheat is cleaned. That makes the price received for screenings a critical element.

Then there is the higher price elevators can receive for cleaner grain. But that may not always be the case, either, given the way prices fluctuate depending on supply-demand factors, as well as the level of foreign production and the effects of weather.

Other potential savings can vary as well. Cleaning grain may reduce the need for fumigation to combat insects that are attracted to chaff and other nonwheat material. Cleaning would also reduce power costs involved in aerating and drying grain and in air pollution control.

U.S. Horticulture Blooming Brightly

The U.S. horticultural industry is past the budding stage. It has flowered into an average annual growth of 10 percent per year since 1982—one of the fastest growing sectors in agriculture.

Worldwide, over the past decade, production, consumption, and trade in flowers and plants have expanded faster than the general economy.

Preliminary figures for 1988 show horticulture, totaling $6.9 billion in cash receipts, earned 9.5 percent of the total for all U.S. farm crops. The percentage slipped from 1987's 10.5 percent of crop receipts, mostly because of much improved feed grain prices.

Economist Doyle Johnson of USDA's Economic Research Service explains that the industry is split into 2 sectors. One is floriculture, which includes cut flowers, potted flowering plants, foliage plants, bedding plants, and cut cultivated greens such as ferns used in arrangements. The other is environmental horticulture, which includes all other nursery/greenhouse products.

One of the reasons for the increase in horticultural sales is that the housing industry is spending more for sod and other landscape ornamentals. Also, cities are doing more landscaping in the inner-cities as well as in parks and along highways. And citrus growers replaced freeze-killed citrus trees, pushing up nursery stock sales in Florida.

In addition, with higher personal disposable income, Americans are buying more cut flowers, bedding plants, and other ornamental crops such as houseplants and outdoor foliage, trees, and shrubs.

Ten states accounted for 67.4 percent of the total cash receipts for horticulture in 1987. California, with almost 23 percent, ranked first, a position it has held since counting started in 1960. Florida was second, also a long-time rank, with 14.6 percent, and Texas was third with 6.9 percent.

Of the 2 million farms in the United States, 37,300 are horticultural operations, and individually they average big returns compared to sales for all other types of farms.

The U.S. horticultural industry has grown an average of 10 percent per year since 1982—one of the fastest growing sectors in agriculture.

In 1987, the average sales per horticultural farm were $154,818, compared to $65,165 for all farms.

Total cash receipts in 1988 for the floriculture sector were $2.24 billion, a 2 percent slip from 1987. Bedding plants were the top money-makers at $724.3 million, though down $15 million from 1987. Potted flowering plants were next with $494 million, down about $17 million, and foliage plants were third with $477 million in cash receipts, down about $38 million.

Analysts say it remains to be seen whether these drops in sales represent a lull while the industry catches its breath, or an indication that the market expansion would be limited to increases prompted by population and income growth.

But the market for cut flowers, especially roses, continues to thrive. Production in 1988 in 28 major producing states has grown to a wholesale value of $452.5 million. When imports are added, the total value reaches $736 million. This is almost $53 million more than 1987, and $250 million more than 1984.

Roses clearly have the highest wholesale value of all the cut flower crops. In 1988, domestic production of roses was valued at $181.9 million, almost three times carnations, the second highest. Chrysanthemums were the third highest, valued at $51.9 million, just about $10 million less than carnations.

But as much as Americans love their cut flowers, Johnson says that sales per person in the United States are still only half, or perhaps as low as one-third, the sales in many European countries.

Imports Are Substantial

The United States is the world's largest producer of flowers and plants. And although the American growers control 95 percent of the domestic market, the United States is also a major importer.

Farmers' Cash Receipts Show That The Horticulture Industry Has Grown An Average of 10 Percent Per Year Since 1982

	1976	1978	1980	1982	1984	1986	1988[1]
				$ millions			
Floriculture:							
Cut flowers and decorative greens	209.1	230.7	250.1	N/A	271.3	436.8	542.1
Potted flowering plants	144.3	172.5	209.9	N/A	226.5	388.7	494.2
Foliage plants	243.4	281.9	313.0	N/A	425.6	521.4	477.0
Bedding plants	94.1	129.7	180.3	N/A	345.1	560.1	724.3
Total	690.9	814.8	953.3	N/A	1,268.6	1,906.9	2,237.5
Environmental crops[2]	1,348.3	1,822.6	2,465.5	N/A	3,958.2	3,941.1	4,647.0
TOTAL	2,039.2	2,637.3	3,418.8	4,014.9	5,226.8	5,848.0	6,884.5

[1]Preliminary estimate.
[2]Includes greenhouse/nursery environmental crops (annuals and perennials, except Christmas trees) not reported separately, e.g.: bulbs, turfgrass, nursery stock, and other nursery products.

In 1988, imports totaled $451 million. More than half of the imports in 1988 were cut flowers, a 16-percent jump over 1987.

Colombia holds the largest share of U.S. imports of horticultural products. In 1988 almost all of the $176 million in U.S. purchases from Colombia were cut flowers. Since the Colombian peso is tied to the U.S. dollar, the fall of the dollars' buying power in the past 3 years and the fluctuation of exchange rates did not affect trade with that country. Johnson says that although horticultural trade with Colombia has fallen as U.S. import sources have diversified, nevertheless Colombia will continue to be a dominant supplier of floral products to the United States.

Despite the cheaper American dollar, Dutch flower exports to the United States have grown. In 1988 we bought $143 million in horticultural products from The Netherlands. Approximately $64 million was in cut flowers. The Dutch and other floral experts refer to the United States as "the largest underdeveloped market in the world for flowers."

Other major exporters of horticultural products to the United States in 1988 were Canada, with sales totaling almost $68 million, Costa Rica with almost $13 million, and Mexico, at a little over $8 million.

Johnson says that the United States is likely to import larger quantities of the major floral crops such as roses, carnations, chrysanthemums, statice, lilies, gladioli, daisies, and others. But he also expects that we will import a wider diversity of tropical crops such as Bird of Paradise, Red Ginger, orchids, callas, and anthuriums.

The large volume of imports may contribute to a decline in domestic production, says Johnson. Growers indicated in March that they planned to maintain or scale back cut flower area in 1989. ERS analysts say that cut flowers require much hand labor, which adds significantly to costs. Producers in South and Central America can pay lower wages and consequently may have a cost advantage.

Over 62 Percent of the U.S. Horticultural Imports in 1988 Were Cut Flowers, Mostly From Colombia, The Netherlands, Mexico and Canada

	Cut flowers	Other nursery/ greenhouse products
	$ thousand	
North America	13,385	62,459
Canada	6,110	61,665
Mexico	7,275	794
Caribbean	1,369	1,593
Jamaica	686	751
Dominican Republic	610	631
Central America	8,051	11,078
Guatemala	2,111	2,139
Costa Rica	5,936	7,933
South America	182,583	540
Colombia	175,572	382
Ecuador	3,885	0
Western Europe	68,031	83,627
Netherlands	63,571	79,569
France	2,295	21
Eastern Europe and USSR	9	0
Middle East	3,923	2,975
Israel	3,907	2,952
Africa	1,689	1,763
Kenya	701	0
Swaziland	809	1,354
Asia	2,908	2,653
Thailand	2,798	205
Australia and Oceania	1,558	987
TOTAL WORLD	283,506	167,675

Domestic growers planned increases this year in potted flowering plants, foliage, bedding/garden plants, and cut cultivated greens.

Exports Have Stiff Competition

While the value of imports for all horticultural crops in 1988 was over $451 million, exports totaled less than one-fifth of that amount—$84 million—mostly to Canada. The greatest export values were in herbaceous plants ($32.2 million), fruit-nut plants ($5.3 million), bulbs and roots ($3.5 million), and rose plants ($3.2 million).

In 1981 six countries—Holland, Colombia, Italy, Israel, Denmark, and Belgium—handled 90 percent of flower and plant exports worldwide. But import sources are broadening dramatically in the 1980's, says Johnson.

The cheaper dollar has helped U.S. growers to find export markets, but stiff competition will continue as other countries gear up their floriculture production for export. These include Zimbabwe, Kenya, South Africa, Thailand, Singapore, New Zealand, Australia, France, Italy, Spain, and Israel.

Large increases are also expected from Mexico, other Central and South American nations, and the Caribbean Basin countries. Canada is expected to raise production and is interested in stepping up exports to the United States.

Flower Sales Flourish in Grocery Stores

Johnson estimates that there are approximately 57,000 retail floral outlets in the United States. Mass market floral outlets, mostly grocery stores, account for 21,000, but the majority, about 36,000, are independent retail floral shops.

Floral products are the fastest growing category in grocery stores and other mass markets. Grocery store retail sales of flowers and plants in 1986 were only $1.49 billion, or 18 percent of the total horticultural sales. But floral sales averaged $28 per square foot per year in the stores, while other produce averaged $8 to $12.

Sales of floral and plant items have doubled over the past 4 years and 86 percent of all chain stores now carry floral products. In 1988, total floral and plant item sales hit $9.9 billion at retail, with chain stores accounting for about $4.0 billion of the total.

Johnson says that grocery chains have discovered that consumers like the convenience of green plants, fresh cut flowers, and flowering potted plants in the produce section along with fruits and vegetables. □

[Based primarily on information provided by economist Doyle Johnson of the Commodity Economics Division, Economic Research Service.]

Farm Work Force Totals 7.7 Million

About 7.7 million people 14 years of age and older were employed on U.S. farms at some time during 1987.

Hired farmworkers totaled almost 2.5 million, farm operators 2.8 million, and unpaid farmworkers 3.6 million. (About 13 percent of the farm work force engaged in more than one of the three occupations during the year.) These statistics are from the Agricultural Work Force Survey of 1987.

Most of the 2.8 million farm operators were middle-aged white males with high levels of education. Farm operators spent an average of 235 days operating a farm during 1987.

Less than half of the operators reported farming as their primary employment. Nearly half cited livestock as the product contributing most to the gross value of sales on their farms. Most female farm operators were married to other farm operators.

The number of hired farmworkers has remained relatively stable at about 2.5 million since 1970. The hired work force in 1987 was made up mostly of young white males with a low level of education.

Hired farmworkers averaged 112 days of farmwork in 1987. Only 29 percent of them considered farmwork to be their primary employment.

This report contains about 35 tables and several maps.

The Agricultural Work Force of 1987: A Statistical Profile *by Victor J. Oliveira and E. Jane Cox. Published May 1989; 36 pages; $5.50 ($7 to non-U.S. addresses).*

Rail Deregulation Cuts Shipping Costs

The Staggers Rail Act of 1980 deregulated rail transportation in this country and led to lower costs of transporting grain.

The author of this report concludes that most shippers have benefited from increased competition among railroads and from reductions in shipping costs, as railroads abandoned unprofitable branch lines, upgraded remaining lines, and restructured rates.

The 1980 act fundamentally altered the pricing system for rail commodities, expedited abandonment procedures, provided increased capital financing, and restricted the scope of remaining rate regulation.

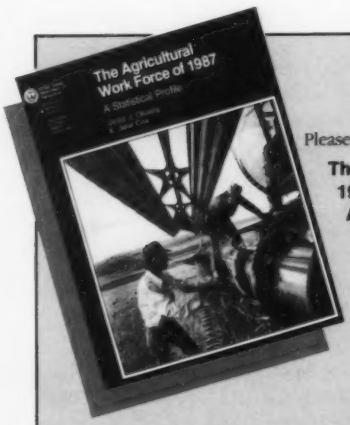
Deregulated rail rates depend on shipment size and distance, annual volume, and the extent of competition from barges and other railroads.

The report indicates that the changes in rates and services so far have not fundamentally altered the typical methods of concentrating grain for shipment or the typical patterns of grain flows.

"Rail deregulation has spurred the rationalization of the rail network and has provided incentives for innovative services and pricing," the author says. He adds that railroads have been able to reduce costs and are therefore now more viable.

Transport costs also have fallen because of declining export grain demand in the 1980's, but this report separates the impact of declining export volume and increasing shipment size from the effects of deregulation.

Effects of Railroad Deregulation on Grain Transportation *by James M. MacDonald. Published June 1989; 56 pages; $5.50 ($7 to non-U.S. addresses).*



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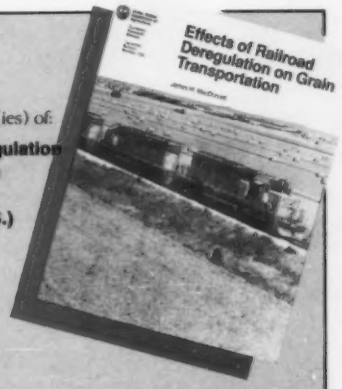

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Soybean Promotion Funds Are Sought

The overseas market for U.S. soybeans and products is not as friendly today as in the past. Competition is heating up, prompting some to argue that more money should be spent on soybean promotion—money that could come from a national checkoff program.

The stakes are high. Soybeans are one of the principal crops in the nation's Corn Belt, ranking second or third highest in revenues farmers receive. In 1987/88, soybeans brought in $11.3 billion in revenue for farmers. Between 1960 and 1987, soybeans ranked fourth in cash receipts among leading commodities, closely trailing corn.

But competition in the oilseeds market is intense. Competitors in Asia and South America are launching campaigns to promote sales of their oilseed products, particularly the oils, and they're pouring millions into the effort.

New oilseeds are entering the U.S. market that may have the potential one day to challenge soybeans' dominance of the domestic oil market (rapeseed, also known as canola, is one), according to economist Jim Schaub with USDA's Economic Research Service.

Further, U.S. soybean exports have lost market share over the past decade.

The peak years for U.S. soybean exports were 1981/82 and 1982/83, when we exported more than 900 million bushels each year. The United States dominated the world market, with 86 percent of the total soybean trade in 1982/83. In 1987/88, our share of the market was down to 72 percent. (Of course, during the same time period, 1982/83 to 1987/88, U.S. exports fell 11 percent, while world trade expanded 6 percent.)

The U.S. share of the soybean meal market also decreased but by less than for beans, Schaub says. In 1981/82, the United States sold 30 percent of the soybean meal traded on the world market. In 1987/88, the figure was 23 percent.

Our soybean oil exports have also declined, he says. In the late 1970's and early 1980's, we exported more than 2 billion pounds of soybean oil annually. Today, we export about 1.5 billion pounds, and our exports are sustained largely through Government export programs. Eighty-five percent of soybean oil is exported under Government programs, Schaub says.

U.S. soybean exports have lost market share over the past decade.

The increased competition has prompted the American Soybean Association (ASA), which represents growers, to press for a more active role in promoting soybeans. The association believes that the best way to protect the share of the market we've carved out for soybeans and to expand that market is through the Soybean Promotion and Research Checkoff program (SPARC).

"Right now we have a patchwork of checkoff programs in 26 states. A national program would coordinate and expand on these efforts," says Mark Nestlen, ASA's director of congressional relations.

Farmers would pay a few cents a bushel to promote soybeans under a national checkoff, ERS economist Roger Hoskin says. Currently, farmers in two major soybean-growing states—Indiana and Ohio—which together account for more than 17 percent of U.S. soybean production, have no checkoff program.

ERS analysts are uncertain whether the program would necessarily make soybeans more competitive.

Trying to Meet the Competition

The Soybean Promotion and Research Checkoff program is designed to increase markets for American soybeans both at home and abroad, and to expand research into improving soybeans, finding new uses for them, and reducing production costs.

Participation in the program would be mandatory for all soybean growers. Under current proposals, all farmers would pay 0.5 percent of the net market price of their crop, or about $1 per acre, at the first point of sale. The money collected would go to the newly established national soybean board for distribution. All producers would be represented on the national board based on their state's production.

Half of the revenue collected in each state would be reserved for use in that state; the other half would go for national soybean promotion and research.

All soybean growers will have the opportunity to vote for or against adoption of the checkoff program.

The ASA expects that $50-$60 million would be raised each year from the checkoff program. Many soybean-growing states now collect a few cents on each bushel of the crop, raising about $16 million annually, according to the ASA.

"The checkoff is fair, farmer run, and allows state programs to make even greater efforts in soybean research and promotion," Nestlen says.

It's fair because all farmers would be asked to "invest" in the program at the same rate, and all would have representation on the national board, Nestlen says. It's farmer run in the sense that ASA's national delegate organization, which designed the program, has more than 200 participating farmers, and many farmers were polled for their input when shaping the legislation.

The Wirthlin Group, a private polling organization, interviewed 1,000 soybean farmers this April for ASA, and found that 70 percent supported the national checkoff program, 26 percent opposed it, and 4 percent had no opinion.

The checkoff is necessary to keep up with the competition, Nestlen says. Malaysia has funded a palm oil promotion campaign to the tune of nearly $4 million a year. The Malaysians hope to counter the negative publicity in the United States and elsewhere about the high levels of saturated fat in their product. Also, Brazil is pushing to expand soybean production, and some cooperatives there already have checkoffs, ASA says.

One of the most important uses of U.S. checkoff funds would be to promote consumer loyalty to soybean oil, Nestlen says. Polling indicates that nearly 85 percent of consumers can't identify soybean oil as the oil they use, even though 75 percent of the cooking and salad oil consumed in the United States is made from soybean oil. "There's no product loyalty. Thus, the soybean farmer is vulnerable to loss of market," Nestlen says.

Checkoff funds also would be geared toward developing new uses for soybeans, such as soybean oil-based ink for printing.

The checkoff program is ambitious, but ERS analysts caution that it's no panacea for the soybean industry.

The Competition Is Strong

The United States remains by far the major producer and exporter of soybeans, but because of competition from Brazil and Argentina we've lost market share during the 1980's in beans and meal, and (except for Government assistance) in oil as well.

"Maybe we can get some of the export market back with the checkoff program, but competition from South America is very strong," Hoskin says.

"The checkoff program can't solve all the problems the soybean industry faces. It's not going to raise incomes in the Third World, which would buy more soybeans if it had the money. It won't solve foreign interest rate or debt problems either," Schaub adds.

Both analysts do see the checkoff as having the potential to promote use of soybean oil over others, at least in the domestic market.

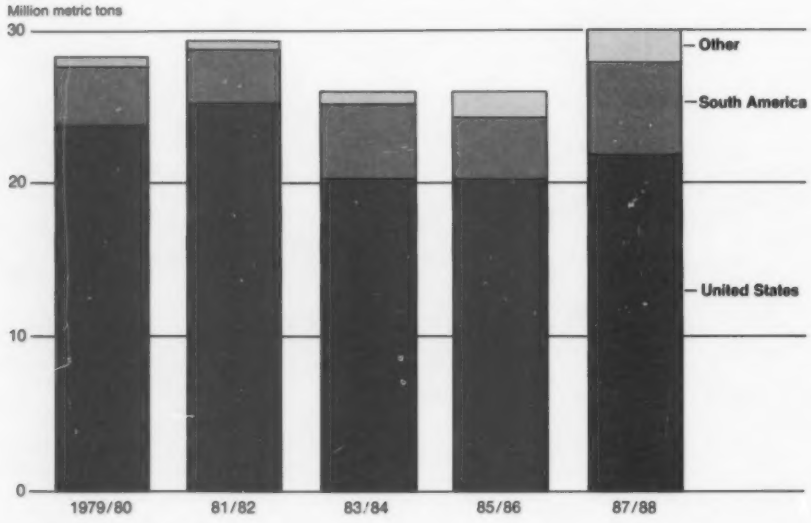
"The checkoff program has a shot at encouraging use of soybean oil domestically, but in foreign markets not much progress is expected," Schaub says.

Foreign production of soybean oil is increasing, he says. Our South American competitors, in particular, make it their policy to encourage exports of oil and meal instead of beans.

Also, buyers are now used to getting U.S. soybean oil with credit programs, Schaub says. And palm oil, which is the world's largest traded oil, is cheaper.

"Consumers have tended to develop loyalty to certain brands of food, not to basic commodities like soybeans," Hoskin says, referring to soybean oil sales abroad. "You can try to promote soybean oil

U.S. Soybean Exports Have Lost Market Share Over the Past Decade



Marketing year beginning September 1.

against another oil," he says, "but price will always be a major determinant, particularly for manufacturing purposes."

Nevertheless, checkoff money could be used to overcome perceptions of quality problems with our oils overseas, analysts say. "We've gone to the Soviets to promote our soymeal as having more protein for their livestock. We could certainly use checkoff moneys to do more of that for meal and for oils, too," Schaub says.

Using checkoff funds to promote consumer loyalty to soybean oil at home may help the industry, analysts say. Americans now consume about 6 million more pounds of fats and oils annually than they did 20 years ago, and soybean oil continues to dominate the domestic market. Yet, consumption of edible oils for October-May 1988/89 fell 3 percent from the same period last year.

Analysts are unsure why oil consumption has fallen. One possibility is that people may be more weight and health conscious today and are cutting down on foods like salad dressings and mayonnaise that contain a lot of oils, including soybean oil.

Although it's too early to draw conclusions about consumer behavior, analysts say, checkoff money could be used to differentiate soybean oil from other oils in terms of levels of saturated fat and thus encourage loyalty to one oil.

Soybean oil contains far less saturated fat, at 18 percent, than palm oil, with about 40 percent. Yet canola oil has even less—6 percent—and could eventually threaten soy's dominance of the domestic market if consumers bought on the basis of saturated fat levels alone.

Nevertheless, it may be too difficult for consumers to identify soybean oil as an ingredient in many products, and U.S. food companies may continue to use a lot of palm oil in their products, despite apparent consumer concerns and efforts to instill loyalty to soybean oil.

"Despite the talk about substituting palm oil for soy, substitutions have been made largely in bulk uses," Schaub says.

"It's easy to substitute for palm oil in shortenings and frying fats, but not as easy in prepared foods. Palm oil gives some foods their crispness, smooth texture, and pleasing appearance," Schaub says.

Reversing Acreage Declines

The number of acres planted to soybeans has been declining since 1979. A record high 71.4 million acres were planted to soybeans in 1979. In 1988, 58.9 million soybean acres were planted.

Acreage has been down because of several factors, including below-average yields and drought in the South. Also, in the Corn Belt, rules for farm programs may have inhibited soybean plantings.

A new government program is designed to turn this around.

The "10-25" flexible planting provision of the Disaster Assistance Act of 1988 allows growers more flexibility to produce soybeans and sunflowers without losing permitted acreages in program crops. Now if growers switch to planting soybeans to take advantage of high prices, they'll forgo program benefits on the acres switched for that year, and they won't lose permitted acres for the next planting year.

The "10-25" provision affects 1989 plantings. The Secretary of Agriculture has the discretion to continue the program in 1990.

The proposed Triple Base concept is similar. It offers growers the option to plant a nonprogram crop like soybeans on part of their land without losing base acres. Farmers won't get program payments on their third base but will get flexibility to plant what they want. □

[Based primarily on information provided by economists Jim Schaub and Roger Hoskin of the Commodity Economics Division, Economic Research Service.]

Farm Population Can Be Defined Different Ways

Depending on how it's defined, the U.S. farm population is 11 million—or less than 6 million.

Why such a difference?

The answer lies in whether the count includes all people living in households associated with farming by residence, occupation, or income, or just those actually living on farms.

As might be guessed, the first group is the larger one by far.

What makes this difference important is the changing connection between the ties of farm residence and farmwork—and the ways in which government programs could change to meet these new realities.

"For efficient and responsive policymaking for today's diverse farm community, target populations must be clearly defined," says economist Margaret Butler of USDA's Economic Research Service.

Butler and fellow ERS researcher Judith Kalbacher have been studying the issue and have analyzed some possible alternatives to the long-prevailing definition. Former ERS statistician Vera Banks also participated in the study.

Clearly, they say, the population targeted by the term 'farm people' cannot be defined as simply as it has been for more than 50 years.

"Farm people have generally been thought of as persons living on farms and ranches," says Butler. "The farm population has long been defined in this way, as all persons residing on farms without regard to occupation or income. At the beginning of the 20th century, when the country was chiefly agrarian, the vast majority of people living on farms also worked there, and few nonfarm residents were engaged in agriculture."

Moreover, "farm residence implied a way of life for the entire farm family, and for nearly the entire body of people working in agricultural production."

That has radically changed, says Butler.

"Many people who now live on farms work elsewhere and many who work on farms live elsewhere," she notes. "Slightly less than half of the 1987 farm resident work force worked primarily in farm occupations, compared with four-fifths of the farm resident workforce in 1940. Half of the farmers and farmworkers lived off the farm in 1983, compared with just a tenth in 1940."

These changes diminish the validity of the farm resident population as a useful measure, or as a part of formulas for distribution of certain federal funds.

"Information on the number, location, and characteristics of farm people who should receive attention promotes good policymaking," says Butler. "With more and more farm-related people living off farms, we must consider other ways of identifying them."

She says "the farm occupation population and farm income population are two such ways of identifying farm-related people. Alternatively, these two groups, plus the farm resident population, can be pooled to create a composite definition. These groups can also be combined or separated, definitionally, as deemed necessary to meet specific needs."

The farm occupation population is defined as all persons in households where at least one member is primarily employed as a farm operator, manager, or worker. This population is the largest of the three farm-related component populations. Individuals employed primarily as farm operators or managers totaled 1.4 million in 1983, while another 1.3 million people held their primary jobs in other farm occupations, mostly as farmworkers, either hired or unpaid family members. The 2.2 million households of these farm operators and workers contained 7.4 million people.

The farm income population, as its name suggests, is defined as all persons in households where at least one member reported farm self-employment income. In March 1983, 2.1 million persons reported such income the previous year, and lived in 2.0 million households, which contained 6.3 million persons.

The third and final category is the farm resident population, which is defined as all persons living in households on rural farms, regardless of occupation or income.

"When first identified in the 1920 Census of Population, the farm population included residents of both urban and rural farms," says Kalbacher.

"Except for the restriction to rural areas introduced in 1960, farm residence remained the sole criterion for identifying the U.S. farm population."

But although the farm population has consistently been defined as all persons living on places designated as farms, changes in the structure of agriculture have periodically prompted changes in the farm definition, says Kalbacher.

"The latest such change was adopted for the 1974 Census of Agriculture," she says. "Under this new definition, the farm population consists of all persons living on places in rural areas from which agricultural products worth $1,000 or more were sold in the reporting year. The previous definition, in use since

1960, identified the farm population as all persons living in rural areas on places of 10 or more acres if at least $50 worth of agricultural products were sold in the reporting year, and places of under 10 acres if at least $250 worth of agricultural products were sold."

According to historical estimates of the farm population, the number of persons living on farms peaked at 32.5 million in 1916, just before the United States entered World War I. Except for brief interruptions during the Great Depression and following World Wars I and II, the number of farm residents declined almost steadily. "Lowered labor requirements in agriculture, increased employment opportunities in nonagricultural industries, the low level of farm income compared with nonfarm incomes, the trend toward smaller families, and the increased tendency to live away from the farm fostered this decline," says Kalbacher.

As reported by the March 1983 Current Population Survey conducted by the U.S. Census Bureau, 5.6 million people lived in households on farms. The farm resident population, about three-fourths the size of the farm occupation population and nine-tenths the size of the farm income population, is the smallest of the three farm-related populations.

"Including all farm-related households (residence, occupa-

tion, and income) results in a maximum total farm-related population (as of March 1983) of 11.3 million persons," Kalbacher says. "This level has not been observed in the traditional farm resident population since the mid-1960's. And even so broadly defined, the total farm-related population represents only 5 percent of the nation's total population of about 230 million."

Kalbacher goes on to say that "each alternative way of identifying farm people possesses unique qualities that determine suitability for specific purposes. The alternatives can also be combined in different ways to meet particular needs."

One such combination, developed to identify all persons engaged in farm operations on their own account, consists of those primarily employed as farm operators or managers and/or those who receive some farm self-employment income. To be identified as a farm operator, the person must either actively participate in farming or make day-to-day decisions about such things as planting, harvesting, and marketing. Persons who receive some farm self-employment income are included whether or not operating a farm is their primary employment. All people living in households identified by these criteria make up the farm operator/income population.

"This population, which numbered 6.7 million in March 1983, may become commonly used in determining the number and characteristics of persons directly involved in farming their own farms," Kalbacher says.

But unlike the definition that has prevailed for decades, she says, the new definitions can't be cast as complete measures of the farm population.

"While one alternative or another may be better for some purposes," says Kalbacher, "no one definition is so clearly superior to the others that we can conclude that it alone best describes the nation's farm people."

—Doug Martinez

Optical Scanning Aids Cotton Sales

Most of us encounter optical scanning systems almost every day—they speed up our wait at the grocery store checkout line and record our purchases. Frequently these are the sole benefits we associate with this new technology.

But these systems record much more information than that—information with the potential to improve the market for U.S. cotton producers.

When the universal product code is read by the laser in an optical scanning system, the price is registered and the sale of the item recorded. Many retailers have integrated their scanning and inventory control systems so that they can monitor the stocks they have on hand and replenish them on a timely basis through an automated ordering system. This procedure helps to ensure that retailers have in stock the products that consumers want, and so eliminate sales losses.

The U.S. textile and apparel industry is rapidly employing this technology to benefit itself and consumers. Apparel retailers, who formerly had to stock large quantities of a certain item and then wait to see how well it sold, can now stock fewer items, monitor sales more closely, and reorder popular items.

The high inventory costs associated with unsold and slow-moving items, which are ultimately borne by the consumer, can now be reduced. Textile and apparel manufacturers, reviewing sales, can immediately begin producing replacements.

The textile industry's expeditious reorder and manufacturing system has become known as the "quick response," and according to economists Scott Sanford and Bob Skinner of USDA's Economic Research Service, the industry is right on target with this new strategy.

Investigating the quantity and timing of U.S. textile imports, Sanford and Skinner note that textile imports tend to peak twice a year—first in January-February, and then in July. These shipment patterns coincide with seasonal clothing trends: the early shipments go into the spring/summer market, and the mid-year imports are sold in the fall/winter market.

Foreign producers, facing lags in production and shipping, must anticipate fashion trends and tastes. Reordering popular items from abroad can be time consuming and costly. The quick response enables U.S. apparel producers to increase their profits by supplying the goods consumers want when they want them.

Foreign cotton production in August 1989 through July 1990 is projected at 69 million bales, virtually unchanged from a year earlier. Nevertheless, the economists estimate that U.S. *imports* of cotton textiles will rise 8.6 percent in calendar year 1989.

The 1989 U.S. cotton crop is projected at 13.5 million bales, 12 percent less than last year. However, U.S. production of extralong staple cotton (used in high-quality cloth) totaled a record 334,200 bales in 1988, up 17 percent from the previous record, set in 1987.

Although the overall price of U.S. cotton has been rising since September 1988, cotton remains less expensive than manmade fibers. For example, the mill-delivered price of strict low middling 1-1/16-inch cotton averaged 76 cents per pound in April, compared with 84 cents for polyester and $1.15 for rayon.

U.S. upland cotton prices showed a general decline last season (August 1987 through July 1988). During March 1989, foreign competitors' prices began rising faster than U.S. prices because of dwindling supplies.

Because cotton is relatively inexpensive, consumption rates have gone up, and the economists explain that declining textile inventories, greater denim production, and competitive prices should boost cotton consumption next season. On the other hand, the continuing growth of cotton textile imports will probably limit gains.

The declining value of the U.S. dollar and large U.S. cotton stocks should allow domestic textile producers to compete more effectively in international markets. The analysts estimate that U.S. exports of cotton textiles will increase by 15.1 percent in calendar year 1989.

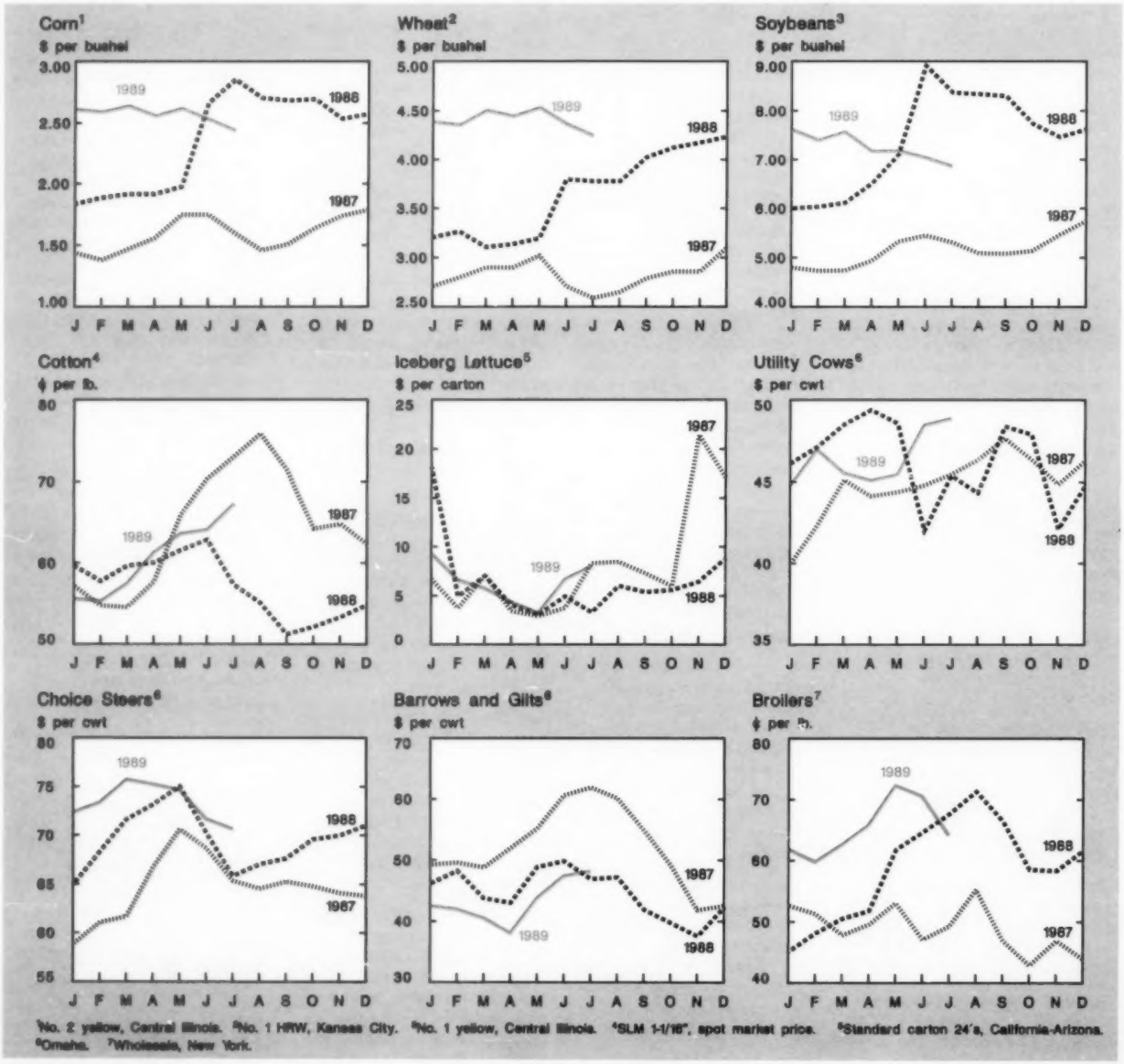
The quick response reorder and manufacturing system has enhanced the ability of domestically produced textiles to compete with the large volume of imports in recent years. As domestic manufacturers increase their share of U.S. textile and apparel sales, U.S. cotton producers may find an expanding market for their products right here at home.

—Priscilla Glynn

FARMLINE TRENDS

Monthly Price Monitor

USDA's July 1989 index of farm prices decreased 0.7% from June but was 2.8% above its year-earlier level. Corn dropped 9¢ to $2.45 per bushel. Wheat decreased 12¢ to $4.26, the lowest thus far this year. Soybeans were down to $6.90, the first time in the $6 range since April 1988. Cotton climbed to 67.4¢ per lb., the highest since September 1987. Iceberg lettuce gained $1.35 to $8.16 per carton. In the meat animals area, utility cows moved up 41¢ per cwt to $48.97. Choice steers dropped to $70.67 per cwt. Broilers lost 6.4¢ to 64.3¢ per lb. Barrows and gilts reached $48.33 per cwt, the highest since June 1988. All prices shown are monthly averages.

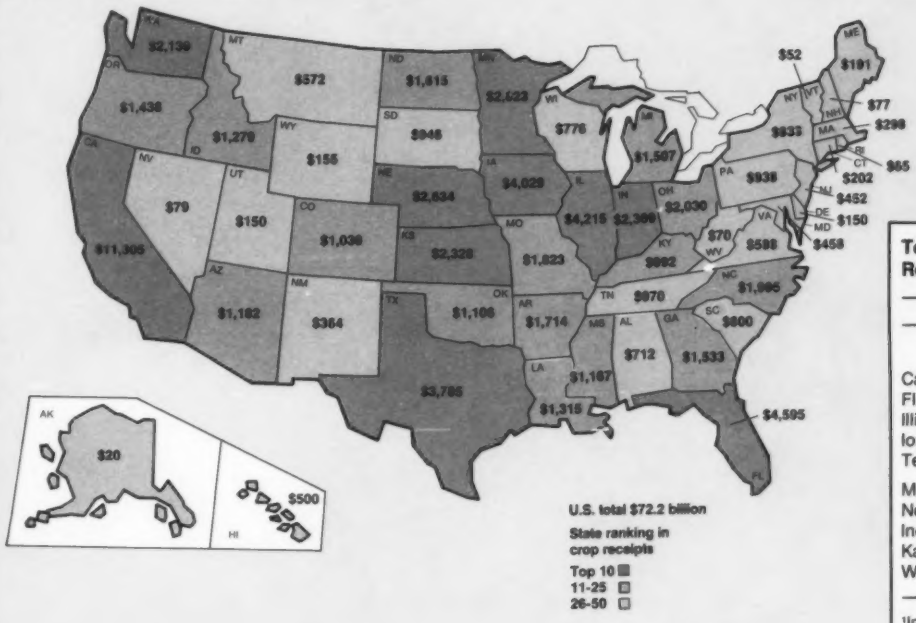


[1]No. 2 yellow, Central Illinois. [2]No. 1 HRW, Kansas City. [3]No. 1 yellow, Central Illinois. [4]SLM 1-1/16", spot market price. [5]Standard carton 24's, California-Arizona. [6]Omaha. [7]Wholesale, New York.

Cash Receipts from Farm Marketings: State Estimates for 1988

1988 Cash Receipts from Crops

All figures in millions (000,000)



Top Ten States in 1988 Crop Receipts[1]

	1986	1987	1988
	$ millions		
California	10,016	10,781	11,305
Florida	3,780	4,125	4,595
Illinois	4,577	3,913	4,215
Iowa	3,974	3,510	4,029
Texas	3,008	3,027	3,785
Minnesota	2,580	2,165	2,823
Nebraska	2,560	1,975	2,634
Indiana	2,174	2,016	2,369
Kansas	1,920	1,807	2,328
Washington	1,799	1,860	2,139

[1]Includes receipts from commodities placed under CCC loans minus value of redemptions.

1988 Cash Receipts from Livestock, Dairy, and Poultry

All figures in millions (000,000)

Top Ten States in 1988 Receipts from Animal Products

	1986	1987	1988
	$ millions		
Texas	5,386	6,059	6,394
Nebraska	4,113	4,848	5,070
Iowa	4,878	5,270	5,018
California	4,170	4,741	4,831
Kansas	3,262	3,914	4,207
Wisconsin	4,110	4,222	4,127
Minnesota	3,379	3,645	3,582
Colorado	2,017	2,321	2,478
Pennsylvania	2,179	2,319	2,354
Oklahoma	1,744	2,052	2,350

All data subject to revision. Data were provided by economist Bob Williams of the Agriculture and Rural Economy Division, Economic Research Service.

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